[](http://www.google.com/url?sa=i&rct=j&q=&esrc=s&frm=1&source=images&cd=&cad=rja&docid=OODg3fNkiU6jFM&tbnid=HXTxyjPCrqpw1M:&ved=0CAUQjRw&url=http://enriquepascal.com/take-closer-look/magnifying-glass&ei=M2Y4UuT2Lc3E4AO5rIDQCw&bvm=bv.52164340,d.dmg&psig=AFQjCNHelhNUM7NcKiyGH-nkEL77FVSYGA&ust=1379514283245173)Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Partner \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**CSI Lab: Percent Composition**

Each partnership will be given a sample that is a mixture of salt, sand, and iron. Your job is to determine what percentage of the mixture is made up salt and what percentage of the mixture is made up of sand. Partnerships will have different answers because there are different samples.

Record the number of the sample that you were given here \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Your first step is to come up with a plan to solve this problem, record your procedure here (you must be specific. If you are having trouble take a look at the materials list and formulas needed, it might give you some ideas!

):

**Procedure**

Have your teacher initial your paper once you think your procedure is complete \_\_\_\_\_\_\_

**Materials:**

Salt/sand mixture water hot plate

Flask filter paper funnel

**Formulas:**

% salt = Mass of Salt % Sand = Mass of Sand

X 100

X 100

Mass of mixture Mass of mixture

% error = measured value – accepted value

X 100

accepted value

**Data Table**

|  |  |
| --- | --- |
|  | **Mass (g)** |
| **Filter paper** |  |
| **Mass of beaker** |  |
| **Filter paper and Mixture (initial)** |  |
| **Mixture** |  |
| **Filter paper and sample (final)** |  |
| **Mass of beaker and salt** |  |
| **Salt alone** |  |
| **Sand alone** |  |
| **Class % Salt** |  |
| **Class % Sand** |  |

1.) Calculate the percent composition of each component in the mixture (you should have one calculation for salt and one for sand. Write out the formula you use in words first, then plug in the numbers and solve. Show all of your work!!!

% composition= (mass of part/mass of whole whole) x 100

% Salt % Sand

2.) Ask Mrs. Utz for your group’s accepted value and record that number here \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Now calculate your percent error (show the formula and your work):

3.) Discuss possible sources of error, why your answer is not perfect. Even if your

numbers were perfect, describe where someone could have made a mistake or been

careless so that their numbers weren’t perfect. Come up with a least 3 possibilities.

1.)

2.)

3.)

4.) Other than filtering, what would be another separation technique that would have worked to separate the sand from the saltwater?

5.) In this lab, was the salt/sand mixture heterogeneous or homogeneous?

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Explain your answer. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Was the salt/water mixture heterogeneous or homogeneous?

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Explain your answer. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Why could you not filter out the salt from the water? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

7.) A mixture contains 3 different substances. Substance A contributes a mass of 386.3 grams, the Substance B contributes a mass of 290.7 grams, and Substance C contributes a mass of 50.5 grams. Find the percent composition of each substance in this mixture. SHOW ALL OF YOUR WORK!